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CINCINNATI LEADS

December 3, 2001

David Black

Mark Twain is thought to have said that if the world came to an end, Cincinnati would find out about it 2 years later. Whether he actually said that or

not, he might have [it hasn't been documented<sup>1</sup> to my knowledge]. It is in some ways, true, and it is certainly funny. Now, some of that mythical insult might be due to the fact that he, Sam Clemmons, was a native of Hannibal, MO. And he might just have been a bit jealous of the Queen City up the river to the northeast. Or he might have been envious of the notion that Cincinnatians would have 2 more years to enjoy life on this planet.

Or he might have been ignorant of some events and major influences in which Cincinnati was in the lead or was first. My desire tonight is to persuade you that, if he had denigrated the Queen City, old Sam was wrong.

Wrong, regarding our significance in the configuration of typewriters.

Wrong, regarding our citizens' influence on the canal through the Isthmus at Panama.

Wrong, regarding our firsts in firefighting equipment and organizations.

#### QWERTY FRIGHT

My best guess about the ability of the members of the Cincinnati Literary Club to do their own typing is somewhere about 50% of us. Most of the other half, I suspect, have always had a secretary to transcribe their dictation or interpret their scribblings; or they felt it beneath their dignity to do women's work. That leaves a small fraction of members who suffer from keyboard fright. When forced to use a typewriter or a computer, they are reduced to two index fingers and a stiffening of the arms, clearly an awkward syndrome.

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1 Not in Bartlett's *Familia Quotations* [1968], not in Little, Brown's *Book of Anecdotes*, edited by Clifton Fadiman, not known by Hamilton County Public Library librarians.

It is to these few reindeer, frozen in the headlights of office technology, that I (a) dedicate this paper, and (b) promise to bring a modicum of relief from their QWERTY fright.

It is understandable that some folks are bewildered by their first hard look at a keyboard. The top row of keys is comfortable - numbers from 1 to 0. It is the second row, starting with the letters Q-W-E-R-T-Y, which gives the standard keyboard its name. From there on it gets no better. The letters appear scrambled in no logical fashion. In fact, they are arranged so that the left hand does 56% of the work; and the middle finger on the right hand, arguably the strongest, does 9% [K.20]. How did this happen? How did the typewriter, a great tool of office efficiency, invented during the industrial revolution, get such an illogical arrangement. And more pertinent to the modern age, why didn't somebody, like Dr. Frank Gilbreth, the time and motion study founder, get it ergonomically straightened out. Or why didn't Bill Gates?

To a large degree, it was because of a typing speed contest held in Cincinnati. In order to appreciate that seminal event, however, it is advisable to understand the development of the typewriter. Credit for inventing that machine is accorded to Christopher Latam Sholes, although his design was chronologically the 52<sup>nd</sup> prototype. A versatile fellow, he was "successively a printer, newspaper editor, postmaster, politician, and state senator." [C.28]. In 1867 he demonstrated his first model to Milwaukee friends. In 1873 he signed a manufacturing contract with E. Remington & Sons [of New York], the small arms manufacturer. The first production model, the No. 1 Remington, arranged the keys in alphabetical order [C.39]. The type-bars struck the platen from below, and fell back into their basket by gravity.

The early users<sup>2</sup> gained enough speed in typing that they would be quicker than the falling type-bars, which would foul each other and jam the machine. So Sholes asked his brother-in-law, superintendent of schools in Western Pennsylvania, "to make a list of the frequency of juxtaposition with which the letters in written English occurred." [C.39]<sup>3</sup>.

Sholes and his co-developer, Carlos Glidden [E.2], then rearranged the No. 2 Remington keyboard so that letters which most frequently occurred together were widely separated in the type-bar basket and on the keyboard. In so doing, he determined that the word "typewriter", his name for his machine [C.29], could be typed on the first rank of letters, thereby assisting Remington's salesmen to make an easy demonstration [F.2]. That design trick, plus the attempt to minimize jamming of the keys, were about the only scientific aspects of the resulting QWERTY keyboard. It has been described by historians as a means of slowing down the typist, a feat of anti-engineering [D.248, I.9].

In the 1880's the typewriter was in the early stages of development, so there were competitive machines. One of them was the Caligraph, a typewriter with two keyboards. Speed being of the essence in typing, it was inevitable that there would be competitive claims, and eventually races. A Mrs. L.B. Longley<sup>4</sup> operated a Shorthand and Typing Institute here in Cincinnati. She believed that her students should use all fingers on both hands. She was challenged by a trade publication, *Cosmopolitan Shorthander*, which

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2 Mark Twain had "Life on the Mississippi" typed in 1883 before sending it to the printer [E.2, C.36].

3 [A.24] states it was Sholes' son-in-law. I think it more likely that the same generation would have achieved this position.

4 Searches in the Hamilton County Library system, and the Cincinnati Historical Society library were fruitless: I cannot find her mentioned in any other context.

stated in 1887 that the best typists used only the first two fingers of each hand [C.40]. A Cincinnati, named Louis Traub<sup>5</sup>, was an expert Caligraph operator and believed that he was the fastest typist in the world, with two fingers. In Salt Lake City the stenographer for the Federal Court, a student of Mrs. Longley [D.418], Frank E. McGurrian [age 27], was prepared to accept that challenge, and to make a substantial bet of \$250 on a race.[B.]

Mrs. Longley arranged the context, which was held in Cincinnati on July 25, 1888, at Graham's Cincinnati Phonographic Academy. Each man took dictation for 45 minutes and copied for 45 minutes, in separate rooms, using the same material. McGurrian won handily, beating Traub by 25% in words processed, averaging over 96 words per minute. The *Enquirer* reported, "It was a brilliant performance on the part of both men (although) it was apparent that Mr. Traub could operate faster than his machine. . .Mr. McGurrian was able to operate without looking at his keyboard at all." [B.] McGurrian was perhaps the first touch-typist: he had memorized the QWERTY keyboard.

As you might imagine, in the century since McGurrian's win, which was widely reported, there have been challenges to the QWERTY keyboard. The most notable of these was by a professor, Dr. August Dvorak, Prof. of Education, U. Washington [C.42]. Inspired and guided by Frank Gilbreth's [K.25] principals of time and motion study, he devised a simplified keyboard in 1932, which he claimed would accelerate the speed of typing about 35% [C.42].

His arrangement uses the second, or home row of letters, to type 70% of the time, thereby reducing up and down movement of both hands. He found that "the fingers of an average typist who types all day on

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5 The *Enquirer* uses this spelling. Most other references write Taub.

QWERTY will travel between 12 and 20 miles" [H.26]. On Dvorak's Simplified Keyboard, the DSK, the same text required one mile of finger travel.

Dvorak studied letter sequences in the English language. He defined two-letter sequences, like *sh* in *ship*, as digraphs; and he found that 137 digraphs make up 90% of our language. So he arranged his home row of letters to include all vowels on the left hand, and consonants on the right, so that 96% of digraphs are typed with alternate hands on that row.

When Dvorak tried to sell his DSK during the Depression, the huge installed base and consequent cost of conversion seemed more important than a slight efficiency improvement of an office tool. Further, typists had no desire to retrain on the DSK, and thereby speedtype themselves out of a job during hard times.

In 1944, during W.W. II, the Navy did a comparison study of typing speed: the DSK vs. the QWERTY. They found a 46% improvement in speed in favor of the DSK. But the procurement office of the Treasury Department vetoed the Navy's requisition for 2,000 Dvorak machines; and the Navy "accidentally" classified the study [H.43-47, K.23], thereby burying any chance of informing the general public for several years. And in 1971 the International Standards Organization recognized QWERTY as the standard keyboard.

So the question arises, "Why didn't a more efficient keyboard replace the QWERTY?" Normally in commerce a more efficient, therefore less costly, system displaces the obsolete. The answers are basically inertia, and vested interests, and the huge costs of conversion.

Which brings us back to avoiding QWERTY fright - and to Bill Gates. There are few obstacles to converting a computer word processor to the DSK system. Take heart, you non-typing Literarians: the new

millennium has arrived. In Windows, a US-DVORK setting can be found in the Control Panel area. For Macintosh users, the instructions can be found on the internet.

All you have to do, then is find a DSK keyboard.

#### Bibliography

- A. History & Development of Typewriters, by G.T. Richards, London Science Museum R652.3 64
- B. *Cincinnati Enquirer*, July 26, 1888, page 8
- C. Century of the typewriter, by W.A. Beeching, 1974
- D. Guns, Germs, and Steel, by J. Diamond, 1998
- E. The Typewriter, *Popular Mechanics*, Aug. 1996
- F. The Sholes (QWERTY) Keyboard, [www.maxmon.com/1874ad](http://www.maxmon.com/1874ad)
- G. [www.cs.ucl.ac.uk/staff/b.rosenberg/kbd/bib](http://www.cs.ucl.ac.uk/staff/b.rosenberg/kbd/bib)
- H. The Dvorak Keyboard, by R.C. Cunningham, 1986, UC #Z 49 .A1 C35 1986
- I. Diffusion of Inventions, by E.M. Rogers, 1983, 301.24 R725d
- J. The Dvorak Keyboard, [www.maxmon.com/1936ad](http://www.maxmon.com/1936ad)
- K. The Dvorak Simplified Keyboard: 40 years of frustration, by R. Parkinson, *Computers and Automation*, Nov. 1972, p. 18-25
- L. Dissenting Opinions, [www.ccsicom/~mbrooks/dvorak/dissent](http://www.ccsicom/~mbrooks/dvorak/dissent)

## Cincinnati's Influence on the Panama Canal

The desirability of canal across the isthmus of Central America began to grow in people's minds in the early 1800's; but with the discovery of gold in California in 1848 the urgency of a shorter and quicker route became worldwide. From New York to San Francisco was a journey of 13,000 miles around Cape Horn; but across the isthmus of Central America it would be 5,000 miles. Along with the rights of Central American countries, one of the critical issues was location. Some 19<sup>1</sup> different areas [PBS.21] were researched, surveyed, or just postulated. Gradually the possibilities were sorted down to four [28], and then to the two "finalists", Panama and Nicaragua.

As the choices narrowed to two, so did considerable heat develop in the debates about which one was the better. Before Ferdinand de Lesseps raised enormous capital to start his ill-stared attempt to build a sea level canal without locks, the arguments generally went like this.

For Panama:

1. A railroad had been built across the Isthmus in 1859 [35].

2. At the inland city of Culebra in Panama, the maximum height above sea level would be only 275 ft. according to the railroad builders [36]. This was the lowest point found across the continental divide to that time.

3. The overland crossing at Panama was shorter and faster for the gold-rush prospectors, and a third

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1 "Path Between the Seas" by David McCullough, p. 21. Hereafter, notations in brackets refer to page numbers from the same work, i.e. [21].

more of them went through Panama than through Nicaragua [38].

For Nicaragua:

1. Panama was a pesthole. In building the railroad, some 6,000 workers had died of malaria or yellow-fever [37].
2. It was closer to the US, faster by 2 days, and shorter by 500 mi. [38].
3. Cornelius Vanderbilt had commissioned a survey which, in 1851, found the high point of 153 ft. above sea level [39].
4. Pres. Grant's Interoceanic Canal Commission decided in 1872 in favor of Nicaragua [59].

De Lesseps forced the choice to Panama by his charisma, his renown in building the Suez Canal, and by his instructing a Lt. Wyse to survey both Panama and Nicaragua, but "that there could be no other route than that of the railroad. . .[and]. . .a sea-level canal [62]." Wyse spent most of his time in Central America getting a Concession from the Colombian government for the French to build a canal across the Isthmus of Panama, good for 99 years [66]. Although American engineers had spent 2-1/2 months surveying both routes and favored Nicaragua, and although Wyse had no comparable engineering studies [63], de Lesseps swayed an international congress in 1879 [84] to build a Panama canal, and said that he would accept command of the enterprise.

His failure to complete the enterprise is a tragedy of 1) a very poor engineering plan to build a sea level canal<sup>2</sup>, 2) the ravages of malaria and yellow

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2 In 1879 the French chief engineer of the French Dept. of Bridges and Highways, Baron de Lapinay, proposed a lock plan [79-81], which de Lessups ignored, but which was ultimately followed.

fever, and 3) enormous self-deceit. He started with 0.4 billion francs [102], but the total expenditure up to the bankruptcy was 1.4 billion [235]. It is estimated that over 20,000 men died in the effort. It had lasted from 1882 [147], to 1888 [202]. I had burned out 4 chief engineers. Between the 3<sup>rd</sup> and 4<sup>th</sup>, the acting chief engineer was Philippe Bunau-Varilla at age 27. He had started his career as a graduate engineer in Panama in 1884 [162], immediately put in charge of the operations at Culebra. In spite of the extreme difficulty of the Panama climate and terrain and the failure of the French effort, he never lost his keen interest in a canal through Panama.

When the *Maine* was blown up in Havana harbor in 1898, the USS *Oregon* was ordered to sail from San Francisco to Havana. Instead of a 4,000 mile trip through a canal, she had to sail 12,000 miles, a 2 months journey [254]. US interest in an isthmian canal became focused. And the prevailing opinion was for a Nicaraguan canal.

In favor of Nicaragua was:

1. Senator John Tyler Morgan of Alabama, Chair. of the Senate Committee on Interoceanic Canals. He had led a cavalry charge at Chickamauga in the Civil War; and he was still a fighter and an expert on the advantage of Nicaragua [260].

2. The failure of the French effort in Panama, due to adverse climate, terrain and disease.

3. It would be closer to American ports, and over 700 miles closer to southern ports, like Sen. Morgan's Alabama, than to New York [261].

4. It was the lowest pass above sea level. It provided 50 miles of Lake Nicaragua and 60 miles of navigable river. It had been recommended by American

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engineering surveys of the 1880's prior to the French effort. It had a relatively healthy climate. Six treaties were already in place between Nicaragua, Costa Rica and the US [262].

5. In the autumn of 1900, the Walker Isthmian Canal Commission had issued a preliminary report favoring Nicaragua [281].

So, in 1900, at the turn of the century, the desirability of an isthmian canal was apparent and high on the American agenda, and the location, referred to as the American route, was across Nicaragua.

However, also in 1900 there was an International Exposition in Paris. It was attended by several Cincinnati businessmen, including Lucien Wulsin, grandfather of Associate Member, Lucien, and Active Member, Dr. John, of this Literary Club, and their sister, Peggy Kite. He had seen a "very admirable topographical model of the Panama Canal" at the Exposition<sup>3</sup>. It had been brought by a graduate of the Ecole Polytechnique, the French equivalent of MIT, Phillipe Bunau-Varilla, who had started his professional career in charge of the operations at the Culebra section [162] of the de Lesseps endeavor, and had for a short time been acting Chief Engineer [180] in the fall of 1885.

During that visit, Lucien Wulsin met Bunau-Varilla, whom he refers to simply as Varilla. Wulsin wrote about a dinner at Paillard's restaurant a few days later. "He talked so well and so ably, and his information was so comprehensive. . .that at the end of half an hour, I realized that the United States would make a tremendous mistake if it did what we all

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3 Lucien Wulsin's quotations from his papers on file at the Cincinnati Historical Society, series I, box 34, MSS 844 - particularly his letter of 5/28/1906 to Robert Batcheller of the Commercial Club of Boston.

expected it to do - proceed to build the Nicaragua canal. . .We suggested to Mr. Varilla that he should be heard in the United States, and I asked him if he would come to Cincinnati, if I got an invitation for him to do so from the Commercial Club."

When Wulsin wired the invitation, Varilla accepted immediately. His talk was "The Comparative Value of the Nicaragua and Panama Routes of the Isthmian Canal" and it was presented on 1/16/1901 [Ohio History, winter 1965, p. 6]. Lucien Wulsin states that "practically all of them were convinced". The next day ". . .we talked of what might be done to bring Mr. Varilla's knowledge to the attention of Pres. McKinley, and decided that the first step was to have the President's friends in Cleveland meet Varilla. . ." That happened within a week.

They ". . .took steps to bring him in touch with Senator [Mark] Hanna", which eventually occurred at the Waldorf Astoria in New York. Wulsin commented, "Varilla was thus given an opportunity to furnish Sen. Hanna the information which enabled the Senator's great business mind to grasp the whole situation. . ."

Varilla then toured the US, speaking to audiences as "an engineer who had experience actually attempting to build a canal there. . .The engineering argument for building at Panama. . .had never been set forth publicly and with conviction." [278]

It is not clear to me exactly how during 1901 Teddy Roosevelt began to turn his favor toward Panama, but it is evident in retrospect that he did. The Isthmian Canal Commission, under Admiral Walker, declared on 11/21/01 [264] that Nicaragua was their preferred choice, considering factors of health, climate, legal rights, cost of construction, and cost of operation. Regarding cost, the deciding factor was the high price of \$109 million [266] put by the French canal company on its holdings of land and equipment [PBS.265]. The Walker Commission thought it was worth

\$40 million. When Varilla learned of this, he advised his fellow shareholders in the French canal company that they had better accept \$40 million, or all was lost.

But then on 1/4/1902, the French reduced their price to \$40 million, exactly what the Walker Commission thought it was worth [266]. The price of \$40 million would include 36,000 acres of land, the railroad, 2,000 buildings and 2 hospitals, an immense amount of machinery, and 36.7 million cu yds of excavation that would not have to be done [267]. Then Teddy Roosevelt "called the members of the Walker Commission to the White House, one by one, for private consultation." [266]. On 1/16/1902 the Walker Commission met in the President's office, and soon reversed its choice, in favor of Panama [267].

The June 1902 debate in the Senate was long and spirited. Sen. Morgan listed all the points in favor of Nicaragua. But Mark Hanna based his presentation on Varilla's engineering appraisal: Panama would be preferred because- -

1. It would be 1/3 the length, 135 miles shorter [322]. Time in transit would be half of Nicaragua's.
2. It would have fewer curves.
3. It would require less excavation.
4. It would have fewer locks.
5. It would cost less to run [322].
6. It would not be subjected to volcanoes: Nicaragua had recorded 8, Panama none [319].

On 1/18/02 Sen. John Spooner introduced a measure to allow the President to acquire the French property [269]. This was signed by TR 6/28/02 [328]. This initiated the negotiations with Columbia, which owned

the Panama province and the desired canal zone. When Columbia demurred, Teddy Roosevelt backed a successful revolution by Panamanians, using the gunboat *Nashville* and others, and signed the Hay/Bunau-Varilla treaty on 11/18/1903 [368]. Around November 1904 the extraordinary construction of the Canal began. It was first put to use nine years later, 9/26/1913 [604].

The full story of the Canal, as you know, is detailed in David McCullough's fascinating book, "Path Between the Seas". Also, in our library, is a 4/9/1904 paper by Judge Howard C. Hollister<sup>4</sup>, "Cincinnati's Part in Panama Canal History". The purpose of this paper has been to focus on the choice between Panama and Nicaragua; and, in particular, the changing of American opinion from favoring Nicaragua.

As Lucien Wulsin modestly wrote, "I believe that the Commercial Club of Cincinnati may well receive credit for taking the first step which changed the United States from the impossible position of the Nicaragua Canal to the practical one of the Panama Canal." Whether Nicaragua would have been "impossible" or not, there is no doubt that Cincinnati citizens, particularly Lucien Wulsin, changed the course of Canal history.

David Black, 11/2/01

#### Firefighting Equipment & Organizations

When Cincinnati was incorporated in 1802, the threat of fire to houses, offices, stables, and industrial plants was real. Most buildings were constructed of wood, a plentiful resource, and they were very combustible. Especially in cities where buildings were close together, it was important to organize communities to contain fires.

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<sup>4</sup> Grandfather of my sister-in-law, Phebe Mixer.

The first organizations were essentially bucket brigades. Each male citizen of Cincinnati was required by law to own and keep a leather bucket. When the alarm sounded, all were to run to the fire, usually identified by a plume of smoke. Merchants, laborers, bankers, i.e. every male, would form a line from the burning building to the nearest source of water, and start passing the water up. Women and children in parallel lines passed the empty buckets back to the water source.

The invention of the pumper around 1816 phased out the bucket brigade technique. You will recall pictures of a carriage fitted with long fore & aft bars on each side. These were worked up and down by 6 men on each side, like a teeter-totter, and pumped water from cisterns or streams. They required great strength and coordination to operate, so it was natural that teams would be formed to work together. These became volunteer fire companies, or engine companies of 50 to 100 men. They naturally developed into private social clubs.<sup>1</sup> At first they were composed of civic minded men, even "society people", who were willing to work for the good of the community.

But as these benighted men grew older or passed on, younger men took their places. Young men love physical competition, and they gradually changed the nature of the engine companies into rival organizations. According to one citizen at that time, "These volunteer companies gradually passed under the control of the worst classes gathered about our town. The costly structures, built to protect the engines, became club houses for the organized ruffianism. The roughs not only oppressed the citizens, but fought among themselves when called out to duty. Under the pretense of purchase of uniforms. . . or the getting up of a new engineer, subscription papers were

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<sup>1</sup> Cincinnati Historical Society Bulletin [CHSB] Vol. 28, summer 1970, #2, pg. 86.

circulated by the boys. . .and no property-owner dared refuse<sup>2</sup> [to pay up]. . ."

Fire insurance companies had a profit interest in getting fires extinguished quickly. The more greedy fire companies understood this, and they began to demand payment for their services. Insurance companies had a practice of placing emblems, called fire marks, on the buildings they were proud to insure, and so advertise their names. Fire marks also were virtual guarantees that the insurer would reward the engine company which extinguished the fire in that building. The incentive, however, also worked in reverse: a volunteer company arriving at a burning building with no fire mark, often turned back and left the owner to fend for himself.<sup>3</sup> Thus the fire companies knew where the money was. That added a pecuniary incentive to the young people of the engine companies, so they would race to the fires in an effort to be the first to get their suction hoses into the cisterns or other sources of water, and the first to spray the fire. Naturally, this led to jostling for position, to sabotaging competitor's equipment, and to fights - and even to riots.

The most notable of these rivalry episodes occurred in September 1851, when a huge old planing mill caught fire. Washington Fire Company #1 raced northward from their engine house on lower Vine, and Western Hose Company #3 dashed southward from upper Main St.<sup>4</sup> The foreman from Western Hose loudly proclaimed that he had arrived first, and tried to prevent Washington from using the hydrant. The Washington foreman indignantly replied that he and his men had arrived ahead of Western and therefore had the right to use the hydrant. Neither foreman bothered to look and see that the hydrant had 2 connections which could be shared. Since neither engine

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2 CHSB pg. 87.

3 CHSB pg. 89.

4 The Dean of Steam Fire Engine Builders [SFEB] by Ed Hass, pg. 3.

company was dousing the fire, 2 other fire companies were called. But one had a bond with Washington, and the other with Western. Six additional companies were called, and over 300 firemen were embroiled in the riot - without one drop of water aimed at the burning planning mill.<sup>5</sup> It burned to its foundation.

City Council had been urged by two of its members, Jacob Piatt and James Walker, for several years to start a fully paid fire department. However, the engine companies were not only social clubs, they were also potent political groups; and the notion of a City-paid department went down to defeat several times. The planning mill riot began to change some minds.

In 1840 The Mechanics Institute of New York sponsored a contest for the best steam fire engine design. Abel Shawk, a Cincinnati mechanic, submitted a design based on using a series of coiled copper tubes, heated from outside, into which water was ejected, to produce steam almost immediately.<sup>6</sup> Shawk got no prize, but he persisted for years. In 1851, shortly after the planning mill riot, he received a \$1,000 appropriation from City Council to build a prototype steam-fired pumper<sup>7</sup>

On March 2, 1852 Shawk and a Cincinnati machinist, Alexander Latta, demonstrated to Council a prototype steam fire engine. It consisted of Shawk's boiler, Latta's steam engine, and a pump from one of Cincinnati's retired hand engines. It generated steam in 4 minutes 10 seconds, and projected water 130 feet from a  $\frac{3}{4}$  inch nozzle<sup>8</sup> It impressed Council, many of whose members had been volunteer firemen. Soon

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5 SFEB, pg. 4.

6 SFEB pg. 5.

7 SFEB pg. 6.

8 SFEB pg. 8. This account is at slight variance from CHSB pg. 98.

thereafter, Joe Ross and Miles Greenwood persuaded Council to appropriate \$5,000 for Shawk and Latta to build the first working steam engine pumper, after Richard Bray, the City Fire Engineer, donated \$5,000 of his own funds. It was completed in December 1852.

One New Year's Day 1853 it was demonstrated to Council at the foot of Broadway. Volunteer firemen brought a hand engine to challenge the steamer. The Shawk-Latta machine three two 1 inch streams; but the hand pumper threw only one stream less far, and the volunteers withdrew chagrined. Then 3 hoses were connected to the steamer and sent three 1-1/2 inch streams over the four story Broadway Hotel.<sup>9</sup> The new invention, a first, invented in Cincinnati, was christened the Uncle Joe Ross.

Volunteer firemen continued to try to sabotage the Ross engineer, and to engage in fighting and rioting. City Council, now thoroughly fed up, abolished all volunteer companies on March 10, 1853.<sup>10</sup> With men supplying the energy for a teeter-totter pump, it took over 1800 volunteers to protect the City. The first successful steam powered pumper required 444 paid firefighters, ¼ as many. This, in turn, made the first paid fire department more affordable to the City.

Miles Greenwood, one of the City's most successful businessmen, and owner of the Eagle Iron Works [which cast most of the decorative iron for New Orleans' French Quarter] became the first Chief of the first professional fire department. Total cost was estimated at \$30,000/year. And Miles Greenwood donated half. Each part-time firefighter was paid \$40 per year; captains, \$150 annually.<sup>11</sup> Well, I guess you can call that "paid".

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9 SFEB pg. 9.

10 CHSB pg. 102.

11 SFEB pg. 10.

At its first real fire, the Uncle Joe Ross was called to a warehouse fire at 3<sup>rd</sup> and Main. The same Richard Bray, who had financed half of the Ross, led his crew to get the steam up, and the horses hitched to pull it, but nobody knew how to drive a team of four horses. Fortunately a Cincinnati resident was watching the predicament with his brother, who was visiting from Vermont. The visitor, a teamster, was persuaded to jump on the lead horse in his best suit; and he drove the Ross to the fire. Former volunteer firemen, bitter about being thrown out by Council and the new invention, cut the horses, and then tried to disable its paid operators. But the crowd consisted of citizens who were tired of volunteer rowdyism and overpowered them. New hoses were connected to the Ross, and the fire was put out.<sup>12</sup>

So the Queen City was the site of the first successful steam fire engine, and the first professional fire department.

David Black, 11/2/01.

#### Finish

So, Sam Clemmons, take that! Cincinnati has lead the way -

- regarding our significance in the configuration of the typewriter keyboard;

- regarding Cincinnati citizens' influence on the Panama canal;

- regarding our first successful steam pumper, and the first professional fire department.

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12 SFEB pg. 9.

So maybe we won't be two years behind at the end of the world.

Would you believe a year and a half?